

CLAIMS

What is claimed is:

- 1 1. A multiple wavelength output light source, comprising:
2 a laser device having a plurality of output wavelengths;
3 a demultiplexer for separating the plurality of output wavelengths; and
4 a plurality of modulators associated with and configured to modulate each
5 wavelength.
- 1 2. The light source of claim 1, wherein the laser device, the plurality of
2 modulators and the demultiplexer are fabricated on one substrate and comprise one
3 module.
- 1 3. The light source of claim 1, wherein the plurality of output wavelengths
2 represents the output spectrum of the laser device.
- 1 4. The light source of claim 1, further comprising an optical filter
2 configured to receive the plurality of output wavelengths and modify each wavelength
3 to a predetermined profile.
- 1 5. The light source of claim 1, wherein the laser device is a Fabry-Perot
2 laser.

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1 6. The light source of claim 1, further comprising a combining device
2 configured to combine each of the plurality of modulated wavelengths onto a single
3 optical fiber.

1 7. The light source of claim 1, wherein the laser device has a spectral
2 distribution including distinct peaks, each of the output wavelengths corresponding to
3 a different one of the peaks.

1 8. A method for forming a broad spectrum modulated laser output, the
2 method comprising:
3 providing a laser device having a plurality of output wavelengths;
4 separating the plurality of output wavelengths; and
5 modulating each of the plurality of output wavelengths.

1 9. The method of claim 8, further comprising forming the laser device and
2 performing the modulating step and the separating step on a single module.

1 10. The method of claim 8, wherein the plurality of output wavelengths
2 represents the output spectrum of the laser device.

1 11. The method of claim 8, further comprising modifying each wavelength
2 to a predetermined profile.

1 12. The method of claim 8, wherein the laser device is a Fabry-Perot laser.

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1 13. The method of claim 8, further comprising combining each of the
2 plurality of modulated output wavelengths onto a single optical fiber.

1 14. A method for forming a broad spectrum modulated laser output, the
2 method comprising the steps of:

3 providing a Fabry-Perot laser device having a plurality of outputs, each output
4 at a different spectral location;

5 separating the plurality of outputs; and

6 modulating each of the plurality of outputs with communication information
7 resulting in a plurality of modulated outputs.

1 15. The method of claim 14, further comprising forming the Fabry-Perot
2 laser device and performing the modulating step and the separating step on a single
3 module.

1 16. The method of claim 14, wherein the plurality of output wavelengths
2 represents the output spectrum of the laser device.

1 17. The method of claim 14, further comprising modifying each wavelength
2 to a predetermined profile.

1 18. The method of claim 14, further comprising combining each of the
2 plurality of modulated outputs onto a single optical fiber.

1 19. An optical system comprising:
2 a laser that outputs plural wavelengths; and
3 modulator means for modulating each of the wavelengths independently.

1 20. The apparatus of claim 19, further comprising separator means for
2 spatially separating the plural wavelengths upstream of their modulation by the
3 modulator means.

1 21. The apparatus of claim 20, further comprising combiner means for
2 spatially combining the wavelengths as modulated by the modulator means.

1 22. The apparatus of claim 19, wherein the laser has a spectral distribution
2 including distinct peaks, each of the wavelengths corresponding to a different one of
3 the peaks.

1 23. An optical method comprising:
2 operating a laser to provide an output characterized by plural wavelengths; and
3 modulating the plural wavelengths independently.

1 24. The method of claim 23, further comprising separating the plural
2 wavelengths upstream of the modulating.

1 25. The method of claim 24, further comprising combining the wavelengths
2 downstream of the modulating.

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- 1 26. The method of claim 23, wherein the wavelengths correspond to
- 2 distinct peaks in the spectral distribution of the output of the laser.

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